



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 5  
77 WEST JACKSON BOULEVARD  
CHICAGO, ILLINOIS 60604**

**SUBJECT:** CLEAN AIR ACT INSPECTION REPORT  
Orchard Hills Landfill, Davis Junction, Illinois

**FROM:** Vicky Mei, Environmental Engineer  
AECAB (IL/IN)

**THRU:** Nathan Frank, Section Supervisor  
AECAB (IL/IN)

**TO:** File

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**BASIC INFORMATION**

**Facility Name:** Orchard Hills Landfill

**Facility Location:** 8538 Hwy 251 South, Davis Junction, Illinois 61020

**Date of Inspection:** June 9, 2022

**EPA Inspector(s):**

1. Vicky Mei, Environmental Engineer

**Other Attendees:**

1. Brooke Schumaker, Illinois EPA
2. Kyla Suter, Illinois EPA
3. Jake Ott, Illinois EPA
4. Kaare Jacobsen, Illinois EPA
5. Paul Cooney, Ogle County Solid Waste Department
6. John Richardson, CDM Smith
7. Jim Love, Gas Operations Manager, Waste Management (WM)
8. Josh Hey, Engineer, WM
9. Ken Scott, Gas Operations Supervisor, WM
10. Jack Bowers, Operations Manager, WM
11. Davis Hagedorn, Field Technician, Sniffer Robotics
12. Jake Baldwin, Field Technician, Sniffer Robotics

**Contact Email Address:** [kscott7@wm.com](mailto:kscott7@wm.com)

**Purpose of Inspection:** Clean Air Act inspection and Surface Emission Monitoring (SEM)

**Facility Type:** Municipal solid waste landfill

**Regulations Central to Inspection:** Standards of Performance for Municipal Solid Waste Landfills and National Emission Standards for Hazardous Air Pollutants at Municipal Solid Waste Landfills

**Arrival Time:** 7:45 AM CDT

**Departure Time:** 11:18 AM CDT

**Inspection Type:**

- ☐ Unannounced Inspection
- ☒ Announced Inspection

**OPENING CONFERENCE**

- ☒ Presented Credentials
- ☒ Stated authority and purpose of inspection
- ☐ Provided Small Business Resource Information Sheet
- ☒ Small Business Resource Information Sheet not provided. Reason: Not a small business.
- ☒ Provided CBI warning to facility

The following information was obtained verbally from Waste Management unless otherwise noted.

**Company Ownership:** Waste Management gained ownership of the facility within the past two years.

**Process Description:**

The facility collects landfill gas at 201 gas wells. The gas is treated at two enclosed flares. The facility has a sulfur treatment system at the top of the landfill for the landfill gas. The facility uses Sniffer Robotics for the quarterly SEM.

**Staff Interview:** The facility had installed caisson wells which were found to be leaking and unsafe in 2018. In 2020, the caisson wells were abandoned or converted into standard wells. The two enclosed flares receive about 7,000 standard cubic feet per minute (scfm). Gas flow at GEW-868 was as high as 30 cubic feet per minute. The size of the active area was a fourth of an acre. Tarps were used to control odors at the active phase. Also for odor control, final cover is installed when cells reach final grade. The facility plans to build a 10,000-scfm renewable natural gas facility next fall. During the facility's second quarter SEM of 2022, fifteen exceedances were detected by Sniffer Robotics on the southeast side of the landfill due to a temperamental horizontal collector.

## **TOUR INFORMATION**

**EPA Tour of the Facility:** Yes

### **Data Collected and Observations:**

Upon arrival, a strong odor at the entrance by the flare was detected. The facility relayed that the odor was from the active area. A strong sulfur odor was detected by the sulfur treatment system and the sulfur treatment media disposal area on the top of the landfill.

**Photos and/or Videos:** were taken during the inspection.

**Field Measurements:** were taken during this inspection.

EPA and Illinois EPA conducted SEM and recorded any methane measurements above 50 ppm. The attendees separated into three monitoring groups and EPA would verify any exceedances above 500 ppm found. No exceedances above 500 ppm were detected. EPA detected 2 measurements above 50 ppm. *See Appendix B: Field Measurement Data.* Illinois EPA detected one measurement above 50 ppm at HEW28, which showed a measurement of 75.0 ppm of methane.

## **CLOSING CONFERENCE**

☒ Provided U.S. EPA point of contact to the facility

## **DIGITAL SIGNATURES**

Report Author: \_\_\_\_\_

Section Supervisor: \_\_\_\_\_

## **APPENDICES AND ATTACHMENTS**

1. Appendix A: Digital Image Log
2. Appendix B: Field Measurement Data

**Facility Name:** Orchard Hills Landfill

**Facility Location:** 8538 Hwy 251 South, Davis Junction, Illinois 61020

**Date of Inspection:** June 9, 2022

**APPENDIX A: DIGITAL IMAGE LOG**

<b>1. Inspector Name:</b> Vicky Mei	<b>2. Archival Record Location:</b> <i>OneDrive</i>
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<b>Image Number</b>	<b>File Name</b>	<b>Date and Time (CDT)</b>	<b>Description of Image</b>
1	IMG_0066.JPG	2022:06:09 09:54:13	Location of the downwind SEM measurement at the southeast corner of the landfill.
2	IMG_0067.JPG	2022:06:09 09:59:27	Starting location of SEM by EW-162. A strong gas odor was detected.
3	IMG_0068.JPG	2022:06:09 11:01:57	Error.
4	IMG_0069.JPG	2022:06:09 11:42:32	117 ppm of methane was recorded at the drain on the northeast slope.
5	IMG_0070.JPG	2022:06:09 11:44:14	180 ppm of methane was recorded at the exiting end of the drain on the northeast slope.

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**APPENDIX B: FIELD MEASUREMENT DATA**

Surface Emission Monitoring

June 9, 2022

EPA's TVA was calibrated at 500 ppm at 8:05 AM CDT. The SEM concluded at 11:18 AM CDT.

Response Time (seconds)	PPM of Methane
5.13	500
3.35	498
3.10	503

The upwind measurement taken at 11:10 AM CDT was 0.7 ppm of methane at the southeast corner of the landfill. The wind speed was 10 miles per hour. The temperature was 72° F. The humidity was at 53%. The downwind measurement was 0.0 ppm of methane.

EPA SEM measurements above 50 ppm of methane:

Measurement Number	PPM of Methane	Location	Photo Number ( <i>See Appendix A: Digital Image Log</i> )
1	117	Northeast slope drain.	Photo #4
2	180	Exiting end of the northwest slope drain.	Photo #5